

Refine Search

Search Results -

Terms	Documents
L1 and L3	7

Database:

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Search:

L4

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Search History

DATE: Thursday, December 01, 2005 [Printable Copy](#) [Create Case](#)

<u>Set</u> <u>Name Query</u> side by side	<u>Hit</u> <u>Count</u> ¹
<i>DB=PGPB,USPT,USOC; PLUR=YES; OP=OR</i>	
<u>L4</u> l1 and L3	7
<u>L3</u> "variable speed" near5 bus	62
<u>L2</u> L1	12362
<u>L1</u> 710/33,300,307,58.240.309,15,60,313;713/600,501,320,322;340/825;370/257;709/233;322/32;361/683-686;712/32.ccls.	12362

END OF SEARCH HISTORY

Refine Search

Search Results -

Terms	Documents
"variable speed" near5 bus	18

Database:

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Search:

L5

Search History

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<i>DB=EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR</i>	
<u>L5</u> "variable speed" near5 bus <i>DB=PGPB,USPT,USOC; PLUR=YES; OP=OR</i>	18
<u>L4</u> l1 and L3	7
<u>L3</u> "variable speed" near5 bus	62
<u>L2</u> L1	12362
<u>L1</u> 710/33,300,307,58.240.309,15,60,313;713/600,501,320,322;340/825;370/257;709/233;322/32;361/683-686;712/32.ccls.	12362

END OF SEARCH HISTORY

Refine Search

Search Results -

Terms	Documents
"variable speed bus" same clock same frequenc\$3 same bandwidth	2

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Search:

L1

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side by side

Hit Count Set Name
result set

DB=PGPB,USPT,USOC; PLUR=YES; OP=OR

L1 "variable speed bus" same clock same frequenc\$3 same bandwidth

2 L1

END OF SEARCH HISTORY

Refine Search

Search Results -

Terms	Documents
"variable speed bus" same clock same frequenc\$3 same bandwidth	2

Database:

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Search:

L2

Refine Search

Recall Text

Clear

Interrupt

Search History

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Set Name Query

side by side

Hit Count Set Name

result set

DB=EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR

L2 "variable speed bus" same clock same frequenc\$3 same bandwidth

2 L2

DB=PGPB,USPT,USOC; PLUR=YES; OP=OR

L1 "variable speed bus" same clock same frequenc\$3 same bandwidth

2 L1

END OF SEARCH HISTORY

Freeform Search

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US Patents Full-Text Database

US OCR Full-Text Database

EPO Abstracts Database

JPO Abstracts Database

Derwent World Patents Index

IBM Technical Disclosure Bulletins

Term:

((variable adj1 speed) near3 bus) and (clock same frequenc\$3 same bandwidth)

Display:

10

Documents in Display Format:

Starting with Number

1

Generate:

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☐ Side by Side

☐ Image

Search

Clear

Interrupt

Search History

DATE: Thursday, December 01, 2005 [Printable Copy](#) [Create Case](#)

<u>Set Name</u> <u>Query</u>	<u>Hit Count</u>	<u>Set Name</u>
side by side		result set
<i>DB=PGPB,USPT,USOC; PLUR=YES; OP=OR</i>		
<u>L4</u> ((variable adj1 speed) near3 bus) and (clock same frequenc\$3 same bandwidth)	3	<u>L4</u>
<u>L3</u> "variable speed bus" and (clock same frequenc\$3 same bandwidth)	2	<u>L3</u>
<i>DB=EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR</i>		
<u>L2</u> "variable speed bus" same clock same frequenc\$3 same bandwidth	2	<u>L2</u>
<i>DB=PGPB,USPT,USOC; PLUR=YES; OP=OR</i>		
<u>L1</u> "variable speed bus" same clock same frequenc\$3 same bandwidth	2	<u>L1</u>

END OF SEARCH HISTORY

Refine Search

Search Results -

Terms	Documents
((variable adj1 speed) near3 bus) and (clock same frequenc\$3 same bandwidth)	2

Database:

- US Pre-Grant Publication Full-Text Database
- US Patents Full-Text Database
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Search:

L5

Refine Search

Recall Text

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Search History

DATE: Thursday, December 01, 2005 [Printable Copy](#) [Create Case](#)

Set Name	Query	Hit Count	Set Name
side by side			result set
DB=EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR			
<u>L5</u>	((variable adj1 speed) near3 bus) and (clock same frequenc\$3 same bandwidth)	2	<u>L5</u>
DB=PGPB,USPT,USOC; PLUR=YES; OP=OR			
<u>L4</u>	((variable adj1 speed) near3 bus) and (clock same frequenc\$3 same bandwidth)	3	<u>L4</u>
<u>L3</u>	"variable speed bus" and (clock same frequenc\$3 same bandwidth)	2	<u>L3</u>
DB=EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR			
<u>L2</u>	"variable speed bus" same clock same frequenc\$3 same bandwidth	2	<u>L2</u>
DB=PGPB,USPT,USOC; PLUR=YES; OP=OR			
<u>L1</u>	"variable speed bus" same clock same frequenc\$3 same bandwidth	2	<u>L1</u>

END OF SEARCH HISTORY

Freeform Search

Database:

US Pre-Grant Publication Full-Text Database

US Patents Full-Text Database

US OCR Full-Text Database

EPO Abstracts Database

JPO Abstracts Database

Derwent World Patents Index

IBM Technical Disclosure Bulletins

Term:

((variable adj1 speed) near3 bus) and (clock same frequenc\$3 same bandwidth)

Display:

10

Documents in Display Format:

-

Starting with Number

1

Generate:

☐ Hit List

☒ Hit Count

☐ Side by Side

☐ Image

Search

Clear

Interrupt

Search History

DATE: Thursday, December 01, 2005 [Printable Copy](#) [Create Case](#)

<u>Set Name</u> <u>Query</u>	<u>Hit Count</u>	<u>Set Name</u>
side by side		result set
DB=EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR		
<u>L5</u> ((variable adj1 speed) near3 bus) and (clock same frequenc\$3 same bandwidth)	2	<u>L5</u>
DB=PGPB,USPT,USOC; PLUR=YES; OP=OR		
<u>L4</u> ((variable adj1 speed) near3 bus) and (clock same frequenc\$3 same bandwidth)	3	<u>L4</u>
<u>L3</u> "variable speed bus" and (clock same frequenc\$3 same bandwidth)	2	<u>L3</u>
DB=EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR		
<u>L2</u> "variable speed bus" same clock same frequenc\$3 same bandwidth	2	<u>L2</u>
DB=PGPB,USPT,USOC; PLUR=YES; OP=OR		
<u>L1</u> "variable speed bus" same clock same frequenc\$3 same bandwidth	2	<u>L1</u>

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» Key

IEEE JNL	IEEE Journal or Magazine
IEEE JNL	IEEE Journal or Magazine
IEEE CNF	IEEE Conference Proceeding
IEEE CNF	IEEE Conference Proceeding
IEEE STD	IEEE Standard

Select Article Information

- ☐
1. **Unity power factor and efficiency control of a voltage source inverter-fed variable-speed induction motor drive**
Aware, M.V.; Tarnekar, S.G.; Kothari, A.G.;
Electric Power Applications, IEE Proceedings-
Volume 147, Issue 5, Sept. 2000 Page(s):422 - 430
Digital Object Identifier 10.1049/ip-epa:20000520
[AbstractPlus](#) | Full Text: [PDF](#)(644 KB) IEEE JNL
- ☐
2. **PWM inverters and their influence on motor overvoltage**
Kerkman, R.J.; Leggate, D.; Schlegel, D.; Skibinski, G.;
Applied Power Electronics Conference and Exposition, 1997. APEC '97 Conference Proceedings 1997., Twelfth Annual
Volume 1, 23-27 Feb. 1997 Page(s):103 - 113 vol.1
Digital Object Identifier 10.1109/APEC.1997.581440
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PWM inverters and their influence on motor overvoltage

Kerkman, R.J., Leggate, D., Schlegel, D., Skibinski, G.,
Rockwell Autom., Allen Bradley, Mequon, WI, USA.

This paper appears in: **Applied Power Electronics Conference and Exposition, 1997. APEC '97 Conference Proceedings 1997., Twelfth Annual**

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Volume: 1

On page(s): 103 - 113 vol. 1

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Posted online: 2002-08-06 21:27:26.0

Abstract:

Modern voltage source pulse width modulation (PWM) inverters have elevated adjustable speed AC drives to a performance level comparable to DC drives. To accomplish this, voltage source inverters (VSI) now employ third generation insulated gate bipolar transistors (IGBT), however, the fast rise times associated with these devices produce unintended consequences. This paper examines motor overvoltages resulting from IGBT PWM VSI. Previous investigations have shown a critical power cable distance exists beyond which twice bus voltage (2 pu) terminal voltages are possible. This is determined primarily by the rise time of the devices and cable characteristics. This paper investigates motor voltages >2 pu, their cause and solution. In contrast to motor voltages <2 pu, the paper shows motor voltages >2 pu primarily are determined by the PWM carrier frequency and modulation strategy. Furthermore, the paper demonstrates motor voltages up to 3-4 pu are possible. Software modifications to the PWM modulator and modulating signal are presented to reduce >2 pu motor overvoltage. Additionally, a hardware correction, easily implemented within a field programmable gate array (FPGA), is disclosed and experimentally demonstrated.

Index Terms

Inspec

Controlled Indexing

AC motor drives PWM inverters field programmable gate arrays insulated gate bipolar transistors overvoltage
variable speed drives

Non-controlled Indexing

IGBT PWM carrier frequency PWM inverters VSI adjustable speed AC drives field programmable gate array
hardware correction insulated gate bipolar transistors modulation strategy motor overvoltage power cable distance
twice bus voltage terminal voltages voltage source inverters

Author Keywords

Not Available

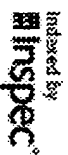
References

No references available on IEEE Xplore.

Citing Documents

- 1 Predicting the transient effects of PWM voltage waveform on the stator windings of random wound induction motors, Suresh, G.; Toliyat, H.A.; Rendusara, D.A.; Enjeti, P.N.
Power Electronics, IEEE Transactions on
On page(s): 23-30, Volume: 14, Issue: 1, Jan 1999
Abstract | Full Text: PDE (136)
- 2 Online stator winding fault diagnosis in inverter-fed AC machines using high-frequency signal injection, Briz, F.; Degner, M.W.; Zamarron, A.; Guerrero, J.M.
Industry Applications, IEEE Transactions on
On page(s): 1109-1117, Volume: 39, Issue: 4, July-Aug. 2003
Abstract | Full Text: PDE (520)
- 3 Filter networks for long cable drives and their influence on motor voltage distribution and common-mode currents, Moreira, A.F.; Santos, P.M.; Lipo, T.A.; Venkataramanan, G.
Industrial Electronics, IEEE Transactions on
On page(s): 515-522, Volume: 52, Issue: 2, April 2005
Abstract | Full Text: PDE (1048)

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